

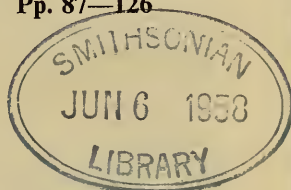
OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

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DIRECTION 97

Determination under the Plenary Powers of the specific name to be used for the North American Alligator and of the spelling to be used for that name (Class Reptilia)

(Opinion supplementary to Opinion 92)

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INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

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DIRECTION 97

DETERMINATION UNDER THE PLENARY POWERS OF
THE SPECIFIC NAME TO BE USED FOR THE NORTH
AMERICAN ALLIGATOR AND OF THE SPELLING
TO BE USED FOR THAT NAME (CLASS REPTILIA)
(" OPINION " SUPPLEMENTARY TO
" OPINION " 92)

RULING :—(1) The following action is hereby taken under the Plenary Powers :—

- (a) The specific name *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator*, is hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy.
- (b) The emendation to *mississippiensis* of the specific name *mississippiensis* Daudin, [1801]¹, as published in the combination *Crocodilus mississippiensis*, is hereby validated.

(2) It is hereby directed that the following revised entry in regard to the generic name *Alligator* Cuvier (G.L.C.F.D.), 1807, be substituted for the entry in regard

¹ At the time when the Report submitted in the present case was laid before the Commission, all that was known as to the date of publication of the name *Crocodilus mississippiensis* Daudin was that it appeared on some date in the year bearing the title "An X" in the French Revolutionary Calendar, that being the date inscribed on the title page of Volume 2 of the Reptile Section of Sonnini's Buffon. Accordingly, this name was treated as having been published in the period September 1801—September 1802, the months included in "An X". Attention has since been drawn to a paper published in 1940 (*Amer. Mid. Nat.* 23 : 692) in which Harper was able to establish a closer date for the foregoing volume and also closer dates for the other seven volumes of the Reptile Section of Sonnini's edition. In the case of Volume 2, the date so established was "December 1801" and in consequence the date "[1801]" has been substituted for the date "[1801—1802]" for this name both in the present Ruling and in the paragraph (paragraph 21) containing the original references for the names included in this Ruling.

thereto made on the *Official List of Generic Names in Zoology* by the Ruling given in *Opinion 92* :—

427. *Alligator* Cuvier (G.L.C.F.D.), 1807 (gender : masculine) (type species by selection by Stejneger (L.) & Barbour (T.) (1917) and through *Declarations 25* and *21* : *Crocodylus mississippiensis* (emend. under the Plenary Powers in (1)(b) above of *mississippiensis*) Daudin, [1801])

(3) The under-mentioned specific name is hereby placed on the *Official List of Specific Names in Zoology* with the Name No. 1517 :—

mississippiensis (emend. under the Plenary Powers in (1)(b) above of *mississippiensis*) Daudin, [1801], as published in the combination *Crocodylus mississippiensis* (specific name of type species of *Alligator* Cuvier (G.L.C.F.D.), 1807)

(4) The under-mentioned specific names are hereby placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* with the Name Numbers severally specified below :—

- (a) *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator*, as suppressed under the Plenary Powers in (1)(a) above (Name No. 521) ;
- (b) *lucius* Cuvier (G.L.C.F.D.), 1807, as published in the combination *Crocodylus (Alligator) lucius* (a junior objective synonym of *mississippiensis* (emend. of *mississippiensis*) Daudin, [1801], as published in the combination *Crocodylus mississippiensis*, through the lectotype selection made by Mertens (R.) (1956)) (Name No. 522) ;

- (c) *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis* (rejected under the Plenary Powers in (1)(a) above as an Invalid Original Spelling for *mississippiensis*) (Name No. 523) ;
- (d) *missisipensis* Gray (J.E.), 1831, as published in the combination *Alligator missisipensis* (an Erroneous Subsequent Spelling for *mississippiensis* (emend. of *mississippiensis*) Daudin, [1801], as published in the combination *Crocodylus mississippiensis*) (Name No. 524).

(5) The under-mentioned family-group name is hereby placed on the *Official List of Family-Group Names in Zoology* with the Name No. 223 :—

ALLIGATORIDAE Gray (J.E.), 1844 (type genus : *Alligator* Cuvier (G.L.C.F.D.), 1807).

I. THE STATEMENT OF THE CASE

The purpose of the application submitted in the present case was to secure from the International Commission authority for making certain corrections in the entry relating to the generic name *Alligator* Cuvier, 1807 (Class Reptilia) made on the *Official List of Generic Names in Zoology* by the Ruling given in *Opinion 92*. The need for action in this matter came to light in the course of investigations carried out by the Secretary in connection with the preparations for the publication of the above *Official List* in book-form. The problems involved proved to be unexpectedly complex and the Secretary took the view that, before any recommendations could usefully be submitted to the Commission, it was desirable that an extensive canvass of opinion should be taken among interested specialists. These consultations were

completed by the early part of 1956 and on 9th May of that year Mr. Hemming signed the following Report in which after setting out the nature of the problems involved and giving particulars of the advice which had been received in response to the questionnaire which had been issued in this case, he submitted for the consideration of the Commission a series of recommendations based upon the views expressed by the majority of the specialists consulted :—

Proposed use of the Plenary Powers to ensure that the specific name “mississippiensis” Daudin, [1801—1802]² as published in the combination “*Crocodylus mississippiensis*” shall be the oldest available name for the North American Alligator (Class Reptilia) (supplement to, and, in part, correction of, a Ruling given in “Opinion” 92)

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

Historical Background

The purpose of the present application is to seek the approval of the International Commission on Zoological Nomenclature for the correction in certain particulars of the entry relating to the generic name *Alligator* Cuvier, 1807 (Class Reptilia) made on the *Official List of Generic Names in Zoology* by a Ruling given in *Opinion* 92 (1926, *Smithson. misc. Coll.* 73 (No. 4) : 3—4). The need for action in this matter has been brought to light in the course of the examination, in preparation for the forthcoming publication of the *Official List* in book-form, of the entries made thereon in the period up to the end of 1936. This examination brought to light also the need for the use by the Commission of its Plenary Powers in one respect if the position of the name *mississippiensis* Daudin for the North American Alligator is to be fully assured. The points at issue are set out in the following paragraphs.

2. The generic name *Alligator* Cuvier (G.L.C.F.D.), 1807 (*Ann. Mus. Hist. nat.*, Paris 10 : 25) was published as the name for a subgenus of the genus *Crocodylus*. Cuvier placed in this subgenus four nominal species, of which the first was *Crocodylus (Alligator) lucius* (: 28), a new nominal species described from “America septentrionalis”.

² See Footnote 1.

Cuvier did not designate or indicate a type species for his subgenus *Alligator*. The first type selection for this genus was made by Stejneger (L.) & Barbour (T.) in 1917 (*Check List N. Amer. Amphib. Rept.* (ed. 1) : 41), who so selected the nominal species *Crocodylus (Alligator) lucius* Cuvier. This type selection is currently accepted by all specialists in this group (see paragraph 5 below).

3. When in 1926 the name *Alligator* Cuvier was placed on the *Official List* (*loc. cit.* : 3), the type species was given as “*Crocodylus mississippiensis* Daudin, 1803”. This entry was incorrect, for the nominal species so named by Daudin was not among the nominal species cited by Cuvier when establishing the nominal taxon *Alligator*. The date “1803” given for the name *mississippiensis* Daudin in *Opinion* 92 is also incorrect, for the volume in which this name appeared is dated “An X” of the French Revolutionary Calendar, i.e. the twelve-month period September 1801 to September 1802. The correct reference for this name is *Crocodylus mississippiensis* Daudin, [1801—1802],² *Hist. nat. gén. partic. Rept.* 2 : 412, nota (1).

4. The subsequent investigation undertaken in the Office of the Commission brought to light two problems affecting the entries to be made on the *Official Lists* and *Official Indexes* in this case which raised also taxonomic issues on which it was apparent that it would be necessary to obtain the views of representative specialists before proposals could be formulated for the consideration of the International Commission. These issues were :—

- (a) Is the name *Lacerta alligator* Blumenbach, 1779, an actual or potential senior subjective synonym of *Crocodylus mississippiensis* Daudin, [1801—1802] ?
- (b) Is it agreed that the nominal species *Crocodylus (Alligator) lucius* Cuvier, 1807, and *Crocodylus mississippiensis* Daudin, [1801—1802], represent the same taxonomic unit ?

5. In order to obtain the necessary taxonomic advice on which to base a proposal for the consideration of the International Commission a questionnaire asking for views on the foregoing questions was issued by the Office of the Commission on 7th February 1956 to a number of specialists who, it was thought, would be interested in the issues involved and would be in a position to furnish advice on the action which it was desirable should be taken by the Commission. In the same questionnaire was included a request for information on the question whether the type selection for *Alligator* Cuvier made by Stejneger & Barbour in 1917 was the earliest such selection made for this nominal species. All the specialists who dealt with this point in their replies

² See Footnote 1.

stated that, so far as they were aware, the above was the first type selection made for this genus. That type selection has accordingly been accepted in the present paper (paragraph 2 above). The specialists consulted on the foregoing matters were either known to be specialists in the group concerned or by reason of working at National Natural History Museums were in a position to obtain and furnish to this Office the views of representative specialists in their respective countries.

6. The specialists who have been so good as to assist the International Commission with advice in the present case are the following :—

J. Guibé (*Muséum National d'Histoire Naturelle, Paris*)

E. M. Hering (*Humboldt-Universität zu Berlin, Zoologisches Museum, Berlin*)

Tadeusz Jaczewski (*The Polish Academy of Sciences, Institute of Zoology, Warsaw*)

Arthur Loveridge (*Museum of Comparative Zoology at Harvard College, Massachusetts, U.S.A.*)

Robert Mertens (*Forschungs-Institut u. Natur-Museum Senckenberg, Frankfurt a.M.*)

A. I. Ortenburger (*University of Oklahoma, Norman, Oklahoma, U.S.A.*)

H. W. Parker (*British Museum (Natural History), London*)

Jay M. Savage (*University of South California, Los Angeles, California, U.S.A.*)

Karl P. Schmidt (*Chicago Natural History Museum, Chicago, Illinois, U.S.A.*)

Hobart M. Smith (*University of Illinois, Urbana, Illinois, U.S.A.*)

Malcolm Smith (*British Museum (Natural History), London*)

Heinz Wermuth (*Zoologisches Museum, Berlin*)

Question of the possible suppression under the Plenary Powers of the specific name "alligator" Blumenbach, 1779, as published in the combination "Lacerta alligator"

7. The first of the matters put to the consultant specialists was whether having regard to the early date of the binomen *Lacerta alligator* Blumenbach (J.F.), 1779 (*Handb. Naturgesch.* (1) : 263) and

the fact that it was commonly treated as representing in part the same species as that which later was named *Crocodilus mississippiensis* by Daudin, it was "considered that the interests of stability in nomenclature would be promoted if the Commission were to suppress the above name [*alligator* Blumenbach] under its Plenary Powers". The following is the portion of the paper submitted to specialists in explanation of the grounds on which the above question was submitted :—

"The nominal species *Crocodilus lucius* Cuvier, 1807, has been identified in later literature with *Crocodilus mississippiensis* Daudin, [1801—1802]. Both species have been identified also as being "in part" the same as *Lacerta alligator* Blumenbach, 1779, e.g. by Stejneger (1917). If, as appears to be the case, Blumenbach's species *alligator* is considered by specialists to be a composite species which included amongst others the North American Alligator, that name will, by reason of its early date, be a constant menace to nomenclatorial stability, for at any moment some specialist by invoking the provisions of Article 31, might seek to fix Blumenbach's name *alligator* to one of the component species. From the point of view of promoting nomenclatorial stability there seems therefore to be a strong case for asking the Commission to use its Plenary Powers to suppress the specific name *alligator* Blumenbach, 1779. The situation is further aggravated by the fact that some authors (e.g. Mook (C.C.) & Mook (G.E.), 1940 : 5) have taken the view that *alligator* Blumenbach is virtually unidentifiable, the description being so poor. Mook's discussion of Blumenbach's name *alligator* is included in his paper in the Section headed "The North American Crocodile" and it is to be inferred therefore that his view was that, if the name *alligator* Blumenbach could be interpreted at all, it applied to the above species and not to the Alligator of the Mississippi. It seems therefore that the continued availability for nomenclatorial purposes of the specific name *alligator* Blumenbach, 1779, not only serves no useful purpose but actually constitutes a serious potential threat to nomenclatorial stability. It is therefore suggested for consideration that the best course would be for the Commission, when dealing with the problem of the generic name *Alligator* Cuvier, 1807, to use its Plenary Powers to suppress the dangerous *nomen dubium* the specific name *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator*".

8. The advice received from specialists has proved to be overwhelmingly in favour of the suppression of the specific name *alligator* Blumenbach, 1779. Ten (10) out of the twelve (12) specialists consulted advise this course (Guibé ; Hering ; Jaczewski ; Loveridge ; Mertens ; Ortenburger ; Savage ; Schmidt ; Smith (H.M.) ; Wermuth). Of the remainder one (Malcolm Smith) considered that the name *alligator* Blumenbach is a *nomen dubium* and cannot be used, while the other (Parker) is opposed to the use of the Plenary

Powers in a case such as the present. The replies received on this question are given in Annexe 1 to the present paper. In view of the advice received a proposal for the suppression of the specific name *alligator* Blumenbach under the Plenary Powers is included in the present paper.

Interpretation of the nominal species "Crocodilus (Alligator) lucius" Cuvier, 1807, and "Crocodilus mississippiensis" Daudin [1801—1802]

9. The question put to the consultant specialists under Heading (c)—the question under Heading (b) related to the question of the place where a type species for *Alligator* Cuvier was first validly selected (as to which reference should be made to paragraph 5 above)—was as follows:— "Is the identification of the nominal species *Crocodilus lucius* Cuvier, 1807, and of *Crocodilus mississippiensis* Daudin, [1801—1802] based upon firm foundations or are there difficulties in this matter which have been glossed over?" The following is the portion of the paper submitted to specialists in explanation of the grounds on which the above question was submitted:—

"The next question on which it is desired to obtain the advice of specialists is whether the original descriptions (a) of *Crocodilus lucius* Cuvier, 1807, and (b) of *Crocodilus mississippiensis* Daudin, [1801—1802] clearly apply to one species only, that species being unquestionably the North American species to which the name *mississippiensis* Daudin is commonly applied. It is judged necessary to raise this question owing to the fact that among the documents of the Commission relating to this case there are a number of obscure observations which appear to imply that the current identification of one or other of the above nominal species rests upon insecure foundations or is even known to be incorrect. This is a matter which the Commission will need to satisfy itself about before it commits itself to the publication of the *Official List* in book-form, for it is anxious above all things to secure that, when that volume is published, it shall not be marred by avoidable errors. Moreover, with the help of its Plenary Powers the Commission is in a position to overcome any difficulties which may at present be resting hidden in this matter by providing a solution in harmony with current nomenclatorial usage".

10. Of the twelve specialists who returned answers to the question quoted at the beginning of paragraph 9 above, nine (9) replied that there

was no doubt that the nominal species *Crocodylus (Alligator) lucius* Cuvier and *Crocodylus mississippiensis* Daudin represented the same taxonomic species. The specialists so advising were : Guibé ; Hering ; Mertens ; Ortenburger ; Parker ; Savage ; Schmidt ; Smith (M.) ; Wermuth. The remaining three (3) specialists (Jaczewski ; Loveridge ; Smith (H.M.)) replied that they were not in a position to give a definite reply, but one (1) (Smith (H.M.)) pointed out that the two nominal taxa concerned had been treated as representing the same taxonomic unit for at least the last seventy-five years. The replies received on this question are given in Annexe 2 to the present paper.

11. The replies to this part of the questionnaire elicited one very important piece of information which had not previously been brought to the attention of the International Commission, namely, that the nominal species *Crocodylus (Alligator) lucius* Cuvier, 1807, and *Crocodylus mississippiensis* Daudin, [1801—1802], were based in part upon the same material and therefore that, if the specimen which was a syntype of both of these nominal species were to be selected as the lectotype of each of these nominal species, the names *lucius* Cuvier and *mississippiensis* Daudin would become objective synonyms, and not merely subjective synonyms, of one another. This question was raised by four (4) of consultant specialists, namely : Guibé ; Mertens ; Parker ; Savage. It was evident that a solution of this problem on the foregoing lines offered great advantages from the point of view of promoting nomenclatorial stability. As the result of further consultations Professor Mertens agreed to furnish a note containing a twofold lectotype selection on the lines described above, the note so furnished to be submitted to the Commission as part of the present application. Professor Mertens has now furnished the promised note which is attached to the present paper as Annexe 3. As the result of the lectotype selection so made by Professor Mertens, the specific name *lucius* Cuvier, 1807, becomes a junior objective synonym of *mississippiensis* Daudin, [1801—1802]. As an objectively invalid name, it should therefore be placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* at the same time that the name *mississippiensis* Daudin is placed on the *Official List of Specific Names in Zoology*.

12. At this point it is necessary to call attention to the Commission's recently published *Declaration 21* (1956, *Ops. Decls. int. Comm. zool. Nomencl.* 12(11) : i—viii) which provides that, "where one of two or more objectively identical nominal species is designated, indicated or selected as the type species of a genus, that genus shall be cited as having as its type species the oldest established of the nominal species concerned". In view of the action of Professor Mertens in selecting the same specimen to be the lectotype of *Crocodylus (Alligator) lucius* Cuvier, 1807, and of *Crocodylus mississippiensis* Daudin, [1801—1802], these

names, as being objective synonyms of one another come within the scope of the provisions of the *Declaration* referred to above. Accordingly, the name to be cited as that of the type species of the genus *Alligator* Cuvier is *Crocodylus mississippiensis* Daudin, [1801—1802], and not *Crocodylus (Alligator) lucius* Cuvier, 1807.

Orthography of the specific name “ mississippiensis ” Daudin, [1801—1802], as published in the combination “ *Crocodylus mississippiensis* ”

13. It will be noted from the bibliographical reference given in paragraph 3 above that the specific name for the North American Alligator was published in Daudin's work as *mississippiensis*, i.e. with a single instead of with a double “ p ” at the end of the third syllable of the word. It is part of the present proposal that the International Commission should place this name on the *Official List of Specific Names in Zoology*. For this purpose it will be necessary to consider whether the above spelling is to be adopted or whether it is to be looked upon as a mis-spelling which ought to be emended to *mississippiensis*, either under the decisions taken by the Copenhagen Congress for the emendation of names (1953, *Copenhagen Decisions zool. Nomencl.* : 43—44, Decision 71) or, in default, by action by the Commission under its Plenary Powers. Clearly the first step in such a case is to examine the book in which the name was first published in order to determine whether it contains any clear evidence that the spelling used was due to inadvertence. In the present case reference to Daudin's book discloses no such evidence. Daudin applied to this species the vernacular (French) name “ Le Crocodile du Mississipi ” and his description of this species contains numerous references to this river which in every case was spelled by him with a single “ p ”. It is evident therefore that Daudin regarded this spelling as the correct spelling. Nor is it possible to argue that the name of this river is correctly spelled only with a double letter “ p ” and therefore that Daudin's use of a single “ p ”, both when using it as a French word and as a Latinised word is necessarily incorrect ; for reference to the Oxford English Dictionary shows that in former times the spelling with a single “ p ” was not uncommon and should not be called incorrect. Accordingly, the emendation of this name to a spelling with a double “ p ” could not reasonably be justified on the ground that this was the currently accepted spelling and that such an emendation under the Plenary Powers was desirable in order to avoid interference with established nomenclatorial practice. In the present case both the original spelling with the single “ p ” and the emended spelling with the double “ p ” have been used, but it does not appear that the emended spelling can be claimed to be in general use, for the original spelling with the single “ p ” has been used in the influential *Check List* of Stejneger and Barbour which has been widely followed in such matters by many

authors. Unless therefore fresh evidence is elicited as the result of the publication of the present application, it appears that the spelling with the single "p" is not only the Valid Original Spelling for this name but is also in sufficiently wide general use as to make it undesirable that this spelling should be emended to a spelling with a double "p". Subject to the foregoing reservation it is accordingly proposed that the specific name *mississippiensis* Holbrook (J.E.), 1842 (*N. Amer. Herp.* 2 : 53), as published in the combination *Alligator mississippiensis*, be rejected as an Invalid Emendation of *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodilus mississippiensis*, and that it should be thereupon placed on the *Official Index of Rejected and Invalid Specific Names in Zoology*, together with the Erroneous Subsequent Spelling *missisipensis* Gray (J.E.), 1831 (*Syn. Rept.* : 62), as published in the combination *Alligator missisipensis*.

Family-group-name aspect

14. The genus *Alligator* Cuvier was made the type genus of a nominal family-group taxon by J. E. Gray who in 1944 (*Cat. Tortoises Crocodiles Amphisbaeniens Coll. Brit. Mus.* : 56) published the family-group name ALLIGATORIDAE. Under the General Directive issued to the International Commission by the International Congress of Zoology this name should now be placed on the *Official List of Family-Group Names in Zoology*.

Recommendations

15. In the light of the information kindly furnished by specialists which has been summarised in the present application and is given in greater detail in the attached annexes, I recommend that, in order to clear this particular item in preparation for the publication of the *Official List* in book-form, the International Commission on Zoological Nomenclature should :—

- (1) use its Plenary Powers to suppress the under-mentioned specific name for the purposes of the Law of Priority but not for those of the Law of Homonymy : *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator* ;
- (2) rule that the spelling of the specific name *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodilus mississippiensis*, is a Valid Original Spelling ;
- (3) substitute the following emended entry on the *Official List of Generic Names in Zoology* relating to the generic name *Alligator* Cuvier, 1807 :—
 427. **Alligator** Cuvier, 1807 (gender : masculine) (type species, by selection by Stejneger (L.) & Barbour (T.) (1917) and through *Declaration* 21 : **Crocodilus mississippiensis** Daudin, [1801—1802]) ;

- (4) place the under-mentioned specific name on the *Official List of Specific Names in Zoology*: *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodylus mississippiensis* (specific name of type species of *Alligator* Cuvier, 1807);
- (5) place the under-mentioned specific names on the *Official Index of Rejected and Invalid Specific Names in Zoology*:—
- (a) *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator* (name proposed to be suppressed under (1) above under the Plenary Powers);
- (b) *lucius* Cuvier, 1807, as published in the combination *Crocodylus (Alligator) lucius* (a junior objective synonym of *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodylus mississippiensis*, through the lectotype selection made by Mertens (R.), in Annexe 3 to the present paper);
- (c) *mississippiensis* Holbrook (J.E.), 1842, as published in the combination *Alligator mississippiensis* (an Invalid Emendation of *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodylus mississippiensis*);
- (d) *mississippiensis* Gray (J.E.), 1831, as published in the combination *Alligator mississippiensis* (an Erroneous Subsequent Spelling for *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodylus mississippiensis*);
- (6) place the under-mentioned family-group name on the *Official List of Family-Group Names in Zoology*: ALLIGATORIDAE Gray (J.E.), 1844 (type genus: *Alligator* Cuvier, 1807).

ANNEXE 1

Replies received from specialists on the question whether it is desirable in the interests of nomenclatorial stability that the name “alligator” Blumenbach, 1779, as published in the combination “*Lacerta alligator*”, a possible senior subjective synonym of “*mississippiensis*” Daudin, [1801—1802], as published in the combination “*Crocodylus mississippiensis*”, should be suppressed by the International Commission under its Plenary Powers

1. J. Guibé (*Paris*) (30th March 1956)

L'impossibilité d'identifier d'une façon certaine *Lacerta alligator* Blumenbach, 1779, signalée des 1801 par Cuvier (*Archiv fuer Zool. u Zoot.* p. 169) milite en faveur de la suppression de cette appellation.

2. **E. M. Hering** (*Berlin*) (26th February 1956)

I transferred your letter of 31st January in the matter of *Alligator* to Dr. Heinz Wermuth, our herpetologist, and he told me that he had answered you direct. He has given me a copy of his letter. I agree with him in all the points made in his letter to you of 23rd February. [See No. 12 below.]

3. **Tadeusz Jaczewski** (*Warsaw*) (21st February 1956)

I am for the suppression of the specific name *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator*. The Plenary Powers of the Commission should be used in this case in the interests of stability in nomenclature.

4. **Arthur Loveridge** (*Cambridge, Mass.*) (10th February 1956)

In view of the menace to a stabilized nomenclature by the questionably composite species *Lacerta alligator* Blumenbach, 1779, I think this name should be suppressed by the International Commission.

5. **Robert Mertens** (*Frankfurt a.M.*) (27th February 1956)

Im Interesse der Stabilität der Zoologischen Nomenklatur erscheint in der Tat sehr erwünscht, den Namen *Lacerta alligator* Blumenbach, 1779, zu unterdrücken.

6. **A. I. Ortenburger** (*Norman, Oklahoma*) (21st February 1956)

I am advising "yes" to question (a) . . .

7. **H. W. Parker** (*London*) (10th February 1956)

The status of *Lacerta alligator* Blumenbach, 1799 does not affect the validity of *Alligator* Cuvier in any way. Whatever it may have been based on, the only possible impact on this genus would be that the name of its type species might have to be changed. I see no point in suppressing the name because of this contingency. My reasons for this standpoint are :—

- (1) To suppress a name because possibly, perhaps, sometimes, it might be a nuisance is a very bad principle. It might equally well turn out that to have such an unallocated name was a blessing.
- (2) If it were so suppressed in the light of the evidence now available, might not a reversal be demanded if the evidence eventually

proved to be incomplete? There were specimens associated with Blumenbach's name(s) "bei den Exemplaren beider Thiere, die im akademischen Museum . . . befindlich sind . . .". These might be found.

8. J. M. Savage (*Claremont, California*) (19th April 1956)

I would strongly favour suppression of the name *Lacerta alligator* Blumenbach, 1779.

9. Karl P. Schmidt (*Chigaco, Ill.*) (17th February 1956)

It is strongly recommended that the *Lacerta alligator* of Blumenbach, 1779, be suppressed as a *nomen dubium*.

10. Hobart M. Smith (*Urbana, Ill.*) (23rd February 1956)

Since Blumenbach's name antedates that of both the Alligator and the Crocodile of North America, its acceptance would unquestionably upset present nomenclature, and thus its suppression is clearly in the interests of nomenclatorial stability.

11. Malcolm Smith (*London*) (2nd March 1956)

I regard *Lacerta alligator* Blumenbach as a *nomen dubium* and consider that it cannot be used.

12. Heinz Wermuth (*Berlin*) (23rd February 1956)

The name *Lacerta alligator* Blumenbach, 1779, should be suppressed as a *nomen dubium* which could endanger the usual name *Alligator mississippiensis* Daudin, [1801—1802].

ANNEXE 2

Replies received from specialists on the question of the interpretation of the nominal species "Crocodilus (Alligator) lucius" Cuvier, 1807, and "Crocodilus mississippiensis" Daudin, [1801—1802]

1. Guibé (*Paris*) (30th March 1956)

Il apparait comme tout à fait certain que l'exemplaire ayant servi à la description de *C. mississippiensis* Daudin [1801—1802] avait été vu précédemment par Cuvier. Non seulement Daudin signale le fait, mais Cuvier (1801, p. 170) fait mention de ce specimen rapporté par

Michaux des bords du Mississippi. Il semble que ce même exemplaire a servi à Cuvier (1807, p. 28) pour décrire son *C. lucius*. Cuvier en effet considère comme sans valeur le travail de Daudin (1807, p. 16).

2. E. M. Hering (*Berlin*) (26th February 1956)

(For the reply from Dr. Hering see Annexe 1, paragraph 2.)

3. Tadeusz Jaczewski (*Warsaw*) (21st February 1956)

We have no herpetologist acquainted with the taxonomy of crocodiles and I am not able to answer this question.

4. Arthur Loveridge (*Cambridge, Mass.*) (10th February 1956)

I can offer no opinion.

5. Robert Mertens (*Frankfurt a.M.*) (27th February 1956)

(For Dr. Mertens's contribution see Annexe 3.)

6. A. I. Ortenburger (*Norman, Oklahoma*) (21st February 1956)

I am advising "yes" to question (c) . . .

7. H. W. Parker (*London*) (10th February 1956)

The species selected as type species of the subgenus *Alligator* Cuvier, 1827, is the one described by Cuvier under the name *Crocodylus lucius*. The description accompanying this name is based on two specimens, one collected by Michaux and the other, a larger one, sent to Paris by Peale. Michaux's specimen had previously been described by Cuvier (1801, Wiedeman's *Arch. f. Zoolog. & Zootom.* 2 (2) : 162—167) as probably representing a new species but was not then named. The species represented by this specimen had previously been named *Crocodylus mississippiensis* Daudin, [1801—1802]; the type (unique) specimen of this name was the same specimen, i.e. the one collected by Michaux.

So, unless it can be shown that Cuvier's *Crocodylus lucius* was a composite (i.e. that Peale's specimen belonged to a different species), the type species of *Alligator* Cuvier is the one named *Crocodylus mississippiensis* by Daudin [1801—1802].

8. J. M. Savage (*Claremont, California*) (19th April 1956)

The name *Crocodylus mississippiensis* Daudin, [1801—1802], is apparently based upon a single specimen of the American Alligator

taken by Michaux. This specimen is probably at the Paris Museum. Daudin seems to have had Cuvier's unpublished manuscript at hand when he described this form and points out on page 413 that the diagnosis of this form is from Cuvier. If Cuvier (1807) had only one specimen at hand when he described *lucius* it was most certainly the same example mentioned by Daudin. I have not seen Cuvier's 1807 paper. If more than one specimen was used by Cuvier, we could designate as lectotype the Michaux example. The Commission should check the above data against the original descriptions and, if it has not already done so, should communicate with Dr. J. Guibé at the Paris Museum regarding the Michaux alligator.

Daudin's allocation at the suggestion of Cuvier, of *Crocodylus mississippiensis* to the group containing the caimans and his description seem to clinch the matter. The Michaux specimen from "les bords du Mississipi" could only be the genus *Alligator* and not the crocodile of the southern United States, *Crocodylus acutus*. This could of course be confirmed by an examination of the Michaux specimen, if it still exists.

9. Karl P. Schmidt (*Chicago, Ill.*) (17th February 1956)

The identification of *Crocodylus lucius* Cuvier, 1807, with *Crocodylus mississippiensis* Daudin, [1801—1802], is unequivocal.

10. Hobart M. Smith (*Urbana, Ill.*) (23rd February 1956)

I cannot verify conspecificity of *C. lucius* Cuvier and *C. mississippiensis* Daudin, since I do not have the latter available, but I can point out that these have been accepted as conspecific for at least 75 years, and to construe otherwise would provide for nomenclatorial instability.

11. Malcolm Smith (*London*) (2nd March 1956)

Crocodylus lucius Cuvier and *C. mississippiensis* Daudin are based on firm foundations and are valid.

12. Heinz Wermuth (*Berlin*) (23rd February 1956)

The species *Crocodylus lucius*, described by Cuvier, 1807, with a clear North American type locality and as a member of the simultaneously erected group *Alligator*, cannot be any other crocodile than *Alligator mississippiensis* (Daudin), which exists as the only species of the family ALLIGATORIDAE in North America. By this reason the identity of *Crocodylus lucius* Cuvier and *Alligator mississippiensis* seems clear to me. Merely a future discovery of a second species of the ALLIGATORIDAE in North America would be a conceivable counter-argument, but surely this will never be the case!

ANNEXE 3

Der Holotypus von “*Crocodylus mississippiensis*” Daudin [1801—1802]³,
ist der Lectotypus von “*Crocodylus lucius*” Cuvier (G.), 1807

Von ROBERT MERTENS

Es liegt meist im Interesse der Stabilität und Eindeutigkeit der zoologischen Namen, wenn die Synonyma nicht subjektiv, sondern objektiv sind : d.h. wenn sie bei den Genera die gleichen Species als Genotypen, bei Species die gleichen Stücke als Specietypen haben. Aus Gründen, welche die Internationale Kommission der Zoologischen Nomenklatur dargelegt hat, halte ich es für sehr erwünscht, wenn der Genotypus von *Alligator* Cuvier, 1807 (*Ann. Mus. Hist. nat.*, Paris 10 : 25), nämlich *Crocodylus lucius* Cuvier (*l. c.* : 28), der bisher als ein subjektives Synonym von *Crocodylus mississippiensis* Daudin [1801—1802] (*Hist. nat. gén. partic. Rept.* 2 : 412, 1801) galt, zu einem objektiven Synonym des letzteren wird.

Das ist durch die Wahl des Typus von *lucius* ohne weiteres möglich. Daudin hat seinen *Crocodylus mississippiensis* auf ein einzelnes Stück des Musée d'Histoire Naturelle in Paris begründet, das der Botaniker Michaux von den Ufern des Mississippi [sic] mitgebracht hat. Somit ist dieses Stück, das sich nach brieflicher Mitteilung von Dr. Jean Guibé an Mr. Hemming im Pariser Museum* befindet, der Holotypus von *mississippiensis*. Dieses Stück war bereits Cuvier (1801, Wiedemann's *Arch. Zool. Zoot.* 2 : 170) bekannt. Es wird von Cuvier später [1807] auch bei der Beschreibung seines *lucius* erwähnt, und zwar an erster Stelle ; es kann kein Zweifel darüber sein, dass es bei der Beschreibung von *lucius* vorlag. Wenn auch Cuvier dabei noch ein weiteres (von Peale eingeschicktes) Stück von *lucius* aufzählt, so erscheint es mir am richtigsten, das Michaux'sche Stück, d.h. den Holotypus von *mississippiensis*, auch zum Lectotypus von *lucius* zu bestimmen : dadurch bleibt nämlich der Genotypus von *Alligator* für alle Zeiten eindeutig mit dem allbekanntesten Namen *mississippiensis* in Verbindung. Diese Festlegung des Lectotypus von *lucius* in dem oben erwähnten Sinne erfolgt auf berechtigten Wunsch von Mr. Hemming.

II. THE SUBSEQUENT HISTORY OF THE CASE

2. Registration of the present application : Upon the discovery of the need for a revision of the entry relating to the generic

³ See Footnote 1.

* For the letter here referred to by Professor Mertens, see Annexe 2(1).

name *Alligator* Cuvier made on the *Official List of Generic Names in Zoology*, the problem so involved was allotted the Registered Number Z.N.(S.) 551.

3. Comments received before publication of the present application : As the result of the questionnaire issued by the Office of the Commission on 7th February 1956 the views of twelve specialists were obtained before the preparation of the Secretary's Report. In that questionnaire the specialists consulted were invited to express their opinion on each of two distinct questions. The replies so received were attached as Annexe 1 and Annexe 2 respectively to the Report submitted by the Secretary which is reproduced in the first paragraph of the present *Direction*. A further document containing a lectotype selection for one of the nominal species involved in the present case was received from one of the specialist consultants. This was attached to the Secretary's Report as Annexe 3.

4. Publication of the Secretary's Report : The Secretary's Report was sent to the printer on 9th May 1956 and was published on 24th August of the same year in Part 6 of Volume 12 of the *Bulletin of Zoological Nomenclature* (Hemming, 1956, *Bull. zool. Nomencl.* 12 : 163—175).

5. Issue of Public Notices on the proposals submitted in the Secretary's Report : Under the revised procedures prescribed by the Thirteenth International Congress of Zoology, Paris, 1948 (1950, *Bull. zool. Nomencl.* 4 : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 24th August 1956 (a) in Part 6 of Volume 12 of the *Bulletin of Zoological Nomenclature* (the Part in which the Secretary's Report was published) and (b) to the other prescribed serial publications. In addition, such Notice was given to four general zoological serial publications and to two herpetological serials in Europe and America respectively.

6. No Objection Received : The publication of the Secretary's Report and the consequential issue of Public Notices regarding

the action under the Plenary Powers recommended therein elicited no objection from any source. The publication of that Report did however give rise to a supplementary application on one point of detail. This is described in the immediately following paragraph.

7. Submission by J. A. Oliver (New York Zoological Society, New York City, N.Y., U.S.A.) of a Supplementary Application for the validation under the Plenary Powers of the emended spelling " mississippiensis " for the specific name for the North American Alligator : On 8th October 1956, Dr. J. A. Oliver (*New York Zoological Society, New York City, N.Y., U.S.A.*) addressed a letter to the Office of the Commission asking for the validation by the Commission under its Plenary Powers of the emendation to *mississippiensis* of the specific name for the North American Alligator which, as published by Daudin in [1801], had appeared with the spelling *mississippiensis*. The receipt of Dr. Oliver's Supplementary Application called for consideration of the procedure to be adopted for co-ordinating that proposal with the proposals previously submitted in the Secretary's Report of 9th May 1956 (paragraph 1 above). In order to deal with this aspect of the question, Mr. Hemming on 18th January 1957 prepared a Supplementary Report in which he set out the procedure which he proposed should be adopted. The Report so prepared, to which Dr. Oliver's letter was annexed as an Appendix, was as follows :—

Report on Dr. James A. Oliver's proposal for the emendation to " mississippiensis " of the specific name published as " mississippiensis " Daudin, [1801—1802], in the combination " Crocodilus mississippiensis " (Class Reptilia)

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

Subsequent to the publication on 29th August 1956 (*Bull. zool. Nomencl.* **12** : 163—175) of my report on the consultations which I had carried out on the question of the name to be regarded as the oldest available name for the North American Alligator, I received on 12th October 1956 a letter dated 8th October from Dr. James A. Oliver

(*Curator of Reptiles, New York Zoological Society*) in which he expressed the view that the proposals set out in the concluding paragraph of my report (paragraph 15) were "sound and desirable", except as regards the point numbered (2) relating to the spelling to be adopted for the specific name published by Daudin in [1801—1802] as *mississippiensis* in the combination *Crocodylus mississippiensis*.

2. In reply I informed Dr. Oliver that I felt that, if the Commission were to be asked to consider the proposal that the emendation to a double "p" spelling of the original single "p" spelling should be accepted, it would wish to have particulars regarding the relative usage of the two spellings. I have today (16th January 1957) received from Dr. Oliver a letter dated 14th January in which he restates his proposal and gives particulars regarding usage. Dr. Oliver's letter is annexed to the present report as an Appendix.

3. Although the question of the spelling of the specific name referred to above arises only incidentally in connection with my previous Report, which dealt mainly with the generic name *Alligator* Cuvier, 1807, a decision on Dr. Oliver's proposal is essential as part of the settlement to be reached on the recommendations submitted in my earlier Report since those recommendations included a proposal that the specific name in question should be placed on the *Official List of Specific Names in Zoology*. In order to provide the Commission with an opportunity of taking a decision on the spelling to be adopted for this specific name originally published as *mississippiensis*, it has been decided to adopt the following procedure:—

- (1) to publish the present supplementary Report in the *Bulletin of Zoological Nomenclature* as quickly as possible;
- (2) to give Public Notice in the prescribed manner of the possible use of the Plenary Powers for the purpose of approving the emendation to *mississippiensis* of the specific name *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodylus mississippiensis*;
- (3) to defer the submission to the International Commission of a Voting Paper on the proposals submitted in my earlier Report (*Bull. zool. Nomencl.* **12** : 169—170, paragraph 15) until the expiry of the period of six months following the date of publication of the present supplementary Report.
- (4) at the close of the prescribed six-month period referred to in (3) above to invite the International Commission to vote separately (i) on the question of the acceptance of the emendation referred to in (2) above, and (ii) on the remaining recommendations set out in paragraph 15 of my original Report.

APPENDIX

Copy of a letter with enclosure dated 14th January 1957 to the Secretary to the International Commission on Zoological Nomenclature from James A. Oliver (Curator of Reptiles, New York Zoological Society, New York City, N.Y., U.S.A.)

Spelling of specific name of *Alligator mississippiensis*.

Your letter of November 30 1956 has been received. I would like to request the Commission to consider the official emendation of the specific name for the American Alligator, spelling it with two "p"s instead of one.

Herpetologists currently spell the name both ways. I list below several reputable specialists who have spelled it with two "p"s in both scientific and popular literature. Most non-herpetologists spell the name with two "p"s. I indicate below a few papers in which these spellings have appeared. Finally, printers and typesetters constantly correct the spelling from one "p" to two "p"s.

The argument put forth that Daudin, [1801—1802], consistently spelled the name of the river with a single "p" and that in former times this was an alternate spelling is not impressive. Not uncommonly incorrect spellings of geographic localities have gotten into the literature and required a number of years to eradicate. I believe the spelling of Mississippi with a single "p" is a similar orthographic error. Why continue a misspelling that has long been corrected by everyone but a few specialists in herpetology? I hope the Commission will take steps to emend this erroneous spelling.

Annex to Dr. James A. Oliver's letter of 14th January 1957

Literature in which the spelling "mississippiensis" is used :

<i>Name of Author and date</i>	<i>Title of Work</i>
Boulenger, A. G., 1889	Catalogue of the Chelonians, Rhynchocephalians and Crocodiles in the British Museum (Natural History) (I cite this older work because it is still a basic reference.)
Carr, A. F., 1940	A Contribution to the Herpetology of Florida

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| Carr, A. F. and
C. J. Goin, 1955 | Guide to the Reptiles, Amphibians and
Fresh-water Fishes of Florida |
| Mertens, Robert, 1943 | Die Rezenten Krokodile des Natur-Museums
Senckenberg |
| Harman, Ian, 1950 | Reptiles as Pets |
| Pope, Clifford, 1956 | The Reptile World |
| Coulson, R. A.,
T. Hernandez and
F. Brazda, 1950 | Biochemical studies on the Alligator |
| Hopping, A., 1923 | Seasonal changes in the gases and sugar of the
blood and the nitrogen distribution in the
blood and urine of the Alligator |
| Hutton, Kenneth E.,
1955 | Variations in the Blood-chemistry of Turtles
under active and hibernating conditions |

I have not made a thorough search of the literature on this, but have selected these from sources close at hand. I think they are adequate to illustrate the points raised in my letter.

8. Publication of J. A. Oliver's Supplementary Application: The Secretary's Report covering Dr. J. A. Oliver's Supplementary application was published on 29th March 1957 in Double Part 2/3 of Volume 13 of the *Bulletin of Zoological Nomenclature* (Hemming, 1957, *Bull. zool. Nomencl.* **13** : 73—75).

9. Issue of Public Notices on the action under the Plenary Powers recommended in J. A. Oliver's Supplementary Application : Under the revised procedure prescribed by the Thirteenth International Congress of Zoology, Paris, 1948 (1950, *Bull. zool. Nomencl.* **4** : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers for the purpose of approving the emendation to *mississippiensis* of the specific name for the North American Alligator published by Daudin in [1801] with the spelling *mississippiensis* was given on 29th March 1957 (a) in Double Part 2/3 of Volume 13 of the *Bulletin of Zoological Nomenclature* (the Part in which the Secretary's Supplementary Report covering Dr. Oliver's application was published) and (b) to the other prescribed serials. In

addition such Notice was given to four general zoological serial publications and to two herpetological serials in Europe and America respectively.

10. Comments received on J. A. Oliver's Supplementary Application : The publication of J. A. Oliver's Supplementary Application and the issue of Public Notices in regard thereto elicited comments from four specialists, of whom three supported Dr. Oliver's proposal and one raised objection thereto. The communications so received are reproduced in the immediately following paragraphs.

11. Support received from Hobart M. Smith (University of Illinois, Urbana, Illinois, U.S.A.) : On 29th April 1957, Professor Hobart M. Smith (*University of Illinois, Urbana, Illinois, U.S.A.*) addressed the following note of support for Dr. Oliver's proposal to the Office of the Commission (Smith, *Bull. zool. Nomencl.* **13** : 189) :—

I strongly urge the approval of the proposal for emendation to *mississippiensis* of the specific name *mississippiensis* Daudin, [1801—1802], as published in the combination *Crocodylus mississippiensis*.

12. Support received from J. Chester Bradley (Cornell University, Ithaca, N.Y., U.S.A.) : On 9th September 1957 there was received in the Office of the Commission the following note from Professor J. Chester Bradley (*Cornell University, Ithaca, N.Y., U.S.A.*) in support of Dr. Oliver's proposal :—

The spelling "*mississippiensis*" involved no error ; Daudin was a Frenchman. He was describing a French reptile, living in French Territory in the lower reaches of a river which was then French. He naturally and correctly used the French spelling, which was and still is with a single "p" (*cf.* Larousse, or any other French dictionary).

Before assuming that the author of a taxon has mis-spelled a geographical name it is necessary to know in what language he naturally thought, the spelling of the place-name in that language, and the proper variants of spelling available to him.

But times have changed. Louisiana is no longer French territory ; the Mississippi River is wholly within the United States, and the alligator is an American reptile. By its very nature it has been and will continue to be frequently written about in popular literature. The spelling "*mississippiensis*" offends American eyes, and will never come to be regarded as correct by any except the erudite few who know its history. Since its emendation "*mississippiensis*" has come widely into use, the Commission will do well to bend to the wind and legalize it.

13. Support received from Carl Kauffeld (Staten Island Zoological Society, N.Y., U.S.A.) : On 13th September 1957, Dr. Carl Kauffeld (*Staten Island Zoological Society, N. Y., U.S.A.*) addressed the following note of support for Dr. Oliver's proposal to the Office of the Commission :—

I heartily endorse Dr. James A. Oliver's application for emendation of the name *Alligator mississippiensis* Daudin whereby the specific name would thenceforth be spelled with two "p"s, i.e. "*mississippiensis*".

14. Objection received from T. J. Hunt (London) : On 19th May 1957, Mr. T. J. Hunt (*London*) sent the following objection to Dr. Oliver's proposals to the Office of the Commission :—

This objection is made after a study of the proposal by Dr. James A. Oliver which would invalidate the original specific name *mississippiensis*. In deciding which form of spelling should in future be used for the specific name four factors should be taken into consideration :—

- (1) The valid original spelling of the name ;
 - (2) The use of the spellings in published literature ;
 - (3) Whether the invalidation of the original spelling would cause any inconvenience or other difficulties ;
 - (4) Whether the adoption of a spelling other than that of the original form would in this particular case be advantageous.
2. My views on any consideration to invalidate the original spelling in keeping with the above factors in this case are :—
- (1) The valid original spelling in this case is *mississippiensis*.
 - (2) The adoption of the spelling *mississippiensis* has undoubtedly been used more in published literature than the proposed *mississippiensis*.
 - (3) The invalidation of the original spelling *mississippiensis* would be an unfortunate circumstance as besides being a test case for original spellings of specific names, there is no proved case

that the spelling *mississippiensis* is erroneous as stated in the letter of Dr. Oliver.

- (4) The adoption of *mississippiensis* as the specific name would in no way merit favour or have advantages over the original spelling.

15. Submission to the Commission by the Secretary in September 1957 of a comprehensive Report covering both the proposals included in the original Application and those included in J. A. Oliver's Supplementary Application : The prescribed Six-Month Waiting Period, as extended by the directions given by the Secretary on 18th January 1957 (paragraph 7 above) expired on 29th September 1957, thus making it possible for the Commission to take decisions on both branches of the present case, namely, on the proposals set forth in the Secretary's Report of 9th May 1956 and also those contained in the Supplementary Application submitted by Dr. J. A. Oliver on 8th October 1956. Accordingly, upon the close of the extended Waiting Period the Secretary prepared (on 30th September 1957) the following Report in which, after recalling the chief features of the present case, he submitted comprehensive proposals for the consideration of the Commission. In accordance with the procedure laid down in the Secretary's Supplementary Report of 18th January 1957, these proposals were so drawn up as to provide an opportunity for the Commission to vote on the proposed use of the Plenary Powers for the purpose of validating the emendation to *mississippiensis* of the specific name *mississippiensis* Daudin as the specific name for the North American Alligator separately from the other proposal for the use of the Plenary Powers involved in this case. The Report so prepared was as follows :—

Proposed validation and amplification of the entry relating to the generic name "Alligator" Cuvier, 1807 (Class Reptilia) made on the "Official List of Generic Names in Zoology" by the Ruling given in "Opinion" 92

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

Introductory

The purposes of the present paper is to bring together in a concise form the salient features of the problem raised by the incomplete

and, in part, incorrect entry relating to the generic name *Alligator* Cuvier, 1807, made on the *Official List of Generic Names in Zoology* by the Ruling given in *Opinion* 92 and thus to assist the International Commission on Zoological Nomenclature in reaching decisions on the issues so involved.

2. The present problem came to light in the course of work in this Office in connection with the preparation of the *Official List of Generic Names in Zoology* for publication in book-form. Extensive consultations then took place with specialists and these led ultimately to the formulation of substantially agreed proposals for remedying the technical defects in the existing entry on the *Official List* relating to the above generic name. In the course of my Report on the foregoing survey I drew attention to the fact that the specific name for the North American Alligator was originally published with the—from the present-day point of view—incorrect spelling “*mississippiensis*” instead of “*mississippiensis*” but I did not include in that Report a proposal in regard to the possible validation of the spelling with the double “p”, thinking it better to make a reservation on this point in the recommendations then submitted, leaving the matter open for discussion by specialists after the publication of my Report. Later a proposal for the validation of the foregoing emendation was, however, received in this Office. The two subjects thus involved in the present case—namely (1) the correction of the mistakes made in *Opinion* 92 and (2) the question of the possible emendation of the spelling of the specific name for the North American Alligator—are quite distinct from one another and are accordingly treated separately both in the present paper and in the Voting Paper now submitted.

(a) Questions arising directly on the entry on the “*Official List*” regarding the generic name “*Alligator*” Cuvier,
1807

3. **Two questions at issue :** So far as concerns the question of the accuracy of the entry regarding the generic name *Alligator* Cuvier, 1807, made on the *Official List* by the Ruling given in *Opinion* 92, two questions came to light in the course of the survey of the entries made on the *Official List* by the Ruling given in the foregoing *Opinion*. These were :—

- (a) Is the name *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator*, an actual or potential senior subjective synonym of the name *mississippiensis* Daudin, [1801], as published in the combination *Crocodilus mississippiensis*?

- (b) Does the nominal species *Crocodylus (Alligator) lucius* Cuvier, 1807, represent the same taxonomic species (the North American Alligator) as the nominal species *Crocodylus mississippiensis* Daudin, [1801] (a nominal species not cited by Cuvier when establishing the nominal taxon *Alligator* Cuvier, 1807, but cited as the type species of that taxon in *Opinion 92*)?

4. **Specialists consulted :** In order to obtain a representative sample of expert opinion on the issues set out above, a Questionnaire was issued on 7th February 1956. The majority of those whom it was decided to consult in this way were specialists in the group concerned, but in a few cases the Questionnaire was issued to specialists in other groups under cover of a letter asking that the Questionnaire be passed on to any specialist in the Class Reptilia who might be working in the same institution. The number of specialists to whom the Questionnaire was issued was twenty. The names of the specialists to whom this Questionnaire was issued are given in Appendix 1 to the present paper. The replies received to this questionnaire were annexed to the Report in which I submitted this case to the Commission (1956, *Bull. zool. Nomencl.* **12** : 163—175). The grateful thanks of the Commission are due to all those furnishing information and advice in response to the request made in the foregoing Questionnaire.

5. **Advice received from specialists on the question of the treatment to be accorded to the specific name "alligator" Blumenbach, 1779, as published in the combination "Lacerta alligator" :** The advice received from the specialists who replied to the first part of the Questionnaire of 7th February 1956 was decisively in favour of the removal by the Commission by the use of its Plenary Powers of the threat to the specific name *mississippiensis* Daudin represented by the existence of the senior synonym—or possible synonym—*alligator* Blumenbach. Of the twelve (12) specialists who furnished advice on this question nine (9) recommended the suppression under the Plenary Powers of the specific name *alligator* Blumenbach, two (2) (J. Guibé ; Malcolm Smith) considered that this name was a *nomen dubium* and doubted whether it was necessary that it should be suppressed and one (1) (H. W. Parker) was opposed to the use of the Plenary Powers in cases such as the present. The nine specialists who recommended the suppression of the specific name *alligator* Blumenbach were : E. M. Hering ; Tadeusz Jaczewski ; Arthur Loveridge ; Robert Mertens ; A. I. Ortenburger ; J. M. Savage ; Karl P. Schmidt ; Hobart M. Smith ; Heinz Wermuth. The comments received from the foregoing specialists were reproduced in Annexe 1 (*loc. cit.* **12** : 171—172) to my Report to the Commission on the present case.

6. **Advice received on the question of the identity of the nominal species "Crocodylus (Alligator) lucius" Cuvier, 1807, and "Crocodylus**

mississippiensis” Daudin, [1801] : On the second of the questions referred to in paragraph 3(b) above the advice received from the eleven specialists who replied to the second part of the Questionnaire of 7th February 1956 was equally decisive, all being agreed that the nominal species *Crocodylus (Alligator) lucius* Cuvier, 1807 (cited by Cuvier when establishing the—as he considered—nominal subgenus *Alligator*) represents the same taxonomic unit as that represented by the nominal species *Crocodylus mississippiensis* Daudin, [1801] (a nominal species not cited by Cuvier when establishing the taxon *Alligator*). The communications received from specialists on this subject were reproduced in Annexe 2 (1956, *loc. cit.* 12 : 173—174) of my Report to the Commission on the present case. Further—and very fortunately—it transpired in the course of the investigations carried out by this Office that in part the nominal species *Crocodylus (Alligator) lucius* Cuvier, 1807, was based upon the same material as that on which in [1801] Daudin had based his nominal species *Crocodylus mississippiensis*. This made it possible for Mertens (1956, *loc. cit.* 12 : 175) to make the foregoing names objective synonyms of one another by selecting the holotype of *Crocodylus mississippiensis* Daudin to be the lectotype of *Crocodylus (Alligator) lucius* Cuvier. This had the great advantage that under *Declaration 25* the selection by Stejneger & Barbour (1917) of the non-included nominal species *Crocodylus mississippiensis* Daudin to be the type species of *Alligator* Cuvier, 1807, became a valid type selection by reason of that nominal species being objectively identical with the nominal species *Crocodylus (Alligator) lucius* Cuvier which was included by Cuvier in the subgenus *Alligator* when he established that nominal taxon. Further under *Declaration 21* the taxon *Alligator* Cuvier, 1807, is to be cited as having as its type species the nominal species *Crocodylus mississippiensis* Daudin, [1801] and not the objectively identical nominal species *Crocodylus (Alligator) lucius* Cuvier, 1807, notwithstanding the fact that, when Cuvier established the nominal taxon *Alligator* in 1807 it was the latter and not the former of the above pair of objectively identical nominal species which he cited as belonging to his taxon *Alligator*.

(Note :—The next three paragraphs (paragraph 7 to 9) gave particulars of the publication of the Secretary’s Report of 9th May 1956, the issue of Public Notices in regard to the possible use of the Plenary Powers in connection therewith and the fact that those Notices elicited no objection to the action proposed from any source. These paragraphs are omitted here, as the information contained in them has already been given in paragraphs 4 to 6 of the present *Direction*.)

10. **General Conclusion** : The wide coverage of the consultations undertaken in regard to this part of the case, the decisive nature of the advice received and the complete absence, after the publication of the Report, of any opposition to, or criticism of, the action recommended in

it, appears to me to justify the conclusion that that action commends itself generally to specialists in this field and is the action which it is desirable should be taken by the Commission.

(b) The question of the relative merits of the Original Spelling "mississippiensis" and the Emendation "mississippiensis" for the specific name of the North American Alligator

11. Receipt from J. A. Oliver (New York Zoological Society) of an application for the validation of the Emendation "mississippiensis" as the specific name for the North American Alligator : On 8th October 1956 Dr. James A. Oliver (*New York Zoological Society, New York City, N. Y., U.S.A.*) submitted an application to the Commission for the validation under the Plenary Powers of the emendation to *mississippiensis* of the specific name *mississippiensis* Daudin as the specific name for the North American Alligator. In this application Dr. Oliver stated that both spellings were currently in use among herpetologists, but that the spelling with a double "p" was that employed by most non-herpetologists. Dr. Oliver gave particulars of eleven works in which the double "p" spelling had been used for this name, of which five had been published during the immediately preceding five years. He added that he had not been able to make a thorough search of the literature, the works cited in his list having been drawn from sources close at hand. He believed, however, that the works cited were sufficient to illustrate the point made in his application.

(Note :—The next four paragraphs (paragraphs 12 to 15) gave particulars of the publication of Dr. Oliver's Supplementary Application, the issue of Public Notices in regard thereto and the names of the specialists who had commented on that proposal, either in support of, or in opposition to, the action recommended. These paragraphs are omitted here, as the information contained in them has already been given in paragraphs 8 to 14 of the present *Direction*.)

(c) Voting Procedure proposed

16. Extension of the Prescribed Six-Month Waiting Period in respect of the Principal Application to secure that that Period should coincide with the close of the corresponding Period in respect of J. A. Oliver's Supplementary Application : At the time of the publication of Dr. Oliver's Supplementary Application on the question of the spelling to be adopted for the specific name of the North American Alligator, I published a note intimating that as Secretary I had extended the Prescribed Six-Month Waiting Period in respect of the Principal Application (i.e. that contained in my Report on the case (paragraph 7 above)) so as to make its close coincide with the close of the corresponding period in respect of Dr. Oliver's Supplementary

Application, thereby making it possible for the Commission to deal simultaneously with the aspects of the present case. The latter Period expired on 29th September 1957 and accordingly all the required procedural steps have now been taken to enable a Voting Paper to be submitted to the Commission in the present case.

17. Form of Voting Paper now issued : When Dr. Oliver's Supplementary Application was published I gave an undertaking that, when the time came to vote on this case an opportunity would be provided for voting separately on the question whether the emendation *mississippiensis* or the original spelling *mississipiensis* should be adopted as the spelling to be used for the specific name of the North American Alligator (Hemming, 1957, *Bull. zool. Nomencl.* **13** : 74). In pursuance of the foregoing undertaking the Voting Paper now submitted (Voting Paper V.P.(57)59) is divided into two Parts. Part 1 deals with all those portions of the original application (*Bull. zool. Nomencl.* **12** : 170) which are independent of the question whether the specific name for the North American Alligator should be emended by the insertion of a second letter "p" (so as to make the name read *mississippiensis*) and would thus be unaffected by any decision on the foregoing point. Part 2 of the Voting Paper deals primarily with the question whether the name published as *mississipiensis* shall be emended to *mississippiensis* (by the insertion of a second letter "p"). In this Part of the Voting Paper the Commission is being asked to vote also on those portions of the original application where the above specific name appears in any context.

18. Texts of the Propositions on which the Commission is now being asked to Vote : These are set out as follows in Annexe 3 to the present paper :—

- (1) **Proposition "A" :** This is the proposition dealing with all matters dealt with in the present application, except the question of the spelling to be adopted for the specific name of the North American Alligator.

Proposition "A" is the Proposition on which the Commission is being asked to Vote in *Part 1* of the Voting Paper.

- (2) **Proposition "B" :** This is the proposition dealing only with the question of the single or double "p" spelling for the specific name (*mississippiensis* or *mississipiensis*) for the North American Alligator. (At the foot of this proposition a note has been added setting out for information the decision which would be embodied in the *Direction* to be adopted in this case if the Commission were to reject the proposal for the validation of the double "p" spelling for the above specific name.)

Proposition "B" is the Proposition on which the Commission is being asked to vote in *Part 2* of the Voting Paper.

APPENDIX 1

Alphabetical list of specialists to whom the Questionnaire regarding the action required to complete and, in part, correct the entry on the "Official List" relating to the generic name "Alligator" Cuvier, 1807, was issued on 7th February 1956

(Note :—This Appendix is here omitted in view of the fact that full particulars regarding the names of, and the appointments held by, the specialists who kindly replied to the Questionnaire issued on 7th February 1956 are given in paragraph 6 of the Report submitted by the Secretary on 9th May 1956 which is reproduced in paragraph 1 of the present *Direction*.)

APPENDIX 2

Comments on J. A. Oliver's proposal for the validation of the emendation to "mississippiensis" of the name "mississippiensis" Daudin, [1801], as published in the combination "Crocodilus mississippiensis" as the name for the North American Alligator

(Note :—This Appendix is here omitted in view of the fact that the comments by the four specialists which were set out in it have been reproduced in paragraphs 11 to 14 of the present *Direction*.)

APPENDIX 3

Propositions regarding the generic name "Alligator" Cuvier submitted for decision with Voting Paper V.P.(57)59

PROPOSITION "A"

(proposals relating to the generic name "Alligator" Cuvier case, exclusive of the portion relating to the spelling of the specific name of the type species of the genus so named)

(proposition submitted with Part 1 of Voting Paper V.P.(57)59 submitted herewith)

(1) Under the Plenary Powers the specific name *alligator* Blumenbach, 1779, as published in the combination *Lacerta alligator*, to be

suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy.

- (2) The under-mentioned specific name to be placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—
alligator Blumenbach, 1799, as published in the combination *Lacerta alligator* and as suppressed under the Plenary Powers in (1) above.
- (3) The under-mentioned family-group name to be placed on the *Official List of Family-Group Names in Zoology* :—
 ALLIGATORIDAE Gray (J.E.), 1844 (type genus : *Alligator* Cuvier, 1807).

PROPOSITION “ B ”

(proposals relating to the spelling to be adopted for the specific name of the North American Alligator)

(proposition submitted with Part 2 of Voting Paper V.P.(57)59 submitted herewith)

- (1) Under the Plenary Powers the Emendation to *mississippiensis* of the specific name *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis*, is hereby validated.
- (2) It is hereby directed that the following entry be substituted for the existing entry on the *Official List of Generic Names in Zoology* in regard to the generic name *Alligator* Cuvier, 1807 :—
 427. *Alligator* Cuvier, 1807 (gender : masculine) (type species, by selection by Stejneger (L.) & Barbour (T.), (1917), and through *Declarations* 25 and 21 : *Crocodylus mississippiensis* (emend. under the Plenary Powers in (1) above of *mississippiensis* Daudin, [1801])
- (5) The specific name *mississippiensis* (emend. of *mississippiensis*) Daudin, [1801], as published in the combination *Crocodylus mississippiensis* (specific name of type species of *Alligator* Cuvier, 1807) is hereby placed on the *Official List of Specific Names in Zoology*.
- (4) The under-mentioned specific names are hereby placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—
 (a) *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis* (rejected under the Plenary

Powers in (1) above as an Invalid Original Spelling for *mississippiensis*);

- (b) the under-mentioned Erroneous Subsequent Spelling for *mississippiensis* (emend. of *mississippiensis*) Daudin, [1801], as published in the combination *Crocodylus mississippiensis* :—

missisipensis Gray (J.E.), 1831, as published in the combination *Alligator missisipensis* ;

- (c) *lucius* Cuvier, 1807, as published in the combination *Crocodylus (Alligator) lucius* (a junior objective synonym of *mississippiensis* (emend. of *mississippiensis*) Daudin, [1801], as published in the combination *Crocodylus mississippiensis*, through the lectotype selection made by Mertens (R.) in Annexe 3 to the original application in this case (*Bull.* 12 : 175).

Note to Proposition “ B ”

In the event of the rejection by the Commission of the proposal submitted above as Proposition “ B ”, the opposing alternative which would be embodied in the *Direction* to be rendered by the Commission would be as follows :—

- (1) The proposal for the validation under the Plenary Powers of the Emendation *mississippiensis* of the specific name *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis* is hereby rejected.
- (2) It is hereby directed that the following entry be substituted for the existing entry on the *Official List of Generic Names in Zoology* in regard to the generic name *Alligator* Cuvier, 1807 :—
427. *Alligator* Cuvier, 1807 (gender : masculine) (type species by selection by Stejneger (L.) & Barbour (T.), (1917), and through *Declarations* 25 and 21 : *Crocodylus mississippiensis* Daudin, [1801])
- (3) The specific name *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis* (specific name of type species of *Alligator* Cuvier, 1807) is hereby placed on the *Official List of Specific Names in Zoology*.
- (4) The under-mentioned specific names are hereby placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—
(a) *mississippiensis* Holbrook (J.E.), 1842, as published in the combination *Crocodylus mississippiensis* (an Invalid

Emendation of *mississippiensis* Daudin [1801], as published in the combination *Crocodylus mississippiensis* ;

- (b) the under-mentioned Erroneous Subsequent Spelling for *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis* :—

missisipensis Gray (J.E.), 1831, as published in the combination *Alligator missisipensis* ;

- (c) *lucius* Cuvier, 1807, as published in the combination *Crocodylus (Alligator) lucius* (a junior objective synonym of *mississippiensis* Daudin, [1801], as published in the combination *Crocodylus mississippiensis* through the lectotype selection made by Mertens (R.) in Annexe 3 to the original application in this case (*Bull.* 12 : 175).

III. THE DECISION TAKEN BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

16. Issue of Voting Paper V.P.(57)59 : On 11th October 1957 a Voting Paper (V.P.(57)59) was issued to the Members of the Commission in relation to the present case. This Voting Paper was divided into two Parts, in the first of which the Members of the Commission were invited to vote upon the proposals submitted in the Report originally submitted by the Secretary (paragraph 1 of the present *Direction*), exclusive of the portion relating to the spelling (*mississippiensis* or *missisipiensis*) to be adopted for the North American Alligator which formed the subject of the Supplementary Application submitted by Dr. J. A. Oliver (paragraph 7 of the present *Direction*), this latter question being the subject matter of the vote invited in Part 2 of the Voting Paper. The proposals so submitted for decision were as follows :—

PART 1

The proposals relating to the generic name *Alligator* Cuvier, 1807, as set out as Proposition "A" in Appendix 3 to the paper bearing the Registered Number Z.N.(S.) 551 submitted by the Secretary simultaneously with the present Voting Paper.⁴

⁴ For the text of Proposition "A" see page 119 of the present *Direction*.

PART 2

The proposals relating to the alternative spellings *mississippiensis* and *mississipiensis* for the specific name of the North American Alligator as set out as Proposition " B " in Appendix 3 to the paper submitted by the Secretary simultaneously with the present Voting Paper.⁵

IMPORTANT NOTE : Members of the Commission are particularly asked to complete both Parts of the present Voting Paper, a decision on each being necessary for the disposal of the present case.

17. The Prescribed Voting Period : As the foregoing Voting Paper was issued under the Three-Month Rule, the Prescribed Voting Period closed on 11th January 1958.

18. Particulars of the Voting on Voting Paper V.P.(57)59 : At the close of the Prescribed Voting Period, the state of the voting on both parts of Voting Paper V.P.(57)59 was as follows :—

(1) Particulars of the voting on Part 1 of Voting Paper V.P.(57)59 :—

(a) *Affirmative Votes had been given by the following twenty-five (25) Commissioners (arranged in the order in which Votes were received) :*

Holthuis ; Vokes ; Bonnet ; Mayr ; Bradley (J.C.) ;
Riley ; do Amaral ; Lemche ; Hering ; Dymond ;
Hankó ; Prantl ; Esaki ; Bodenheimer ; Boschma ;
Hemming ; Mertens ; Jaczewski ; Miller ; Stoll ;
Kühnelt ; Cabrera ; Sylvester-Bradley ; Key ;
Tortonese ;

(b) *Negative Votes :*

None ;

⁵ For the text of Proposition " B " see page 120 of the present *Direction*.

(c) *Voting Papers not returned* :

None.

(2) **Particulars of the voting on Part 2 of Voting Paper V.P.(57)59 :—**

(a) *Affirmative Votes had been given by the eighteen (18) Commissioners (arranged in the order in which Votes were received) :*

Holthuis ; Vokes ; Bonnet ; Mayr ; Bradley (J.C.) ; Riley ; do Amaral ; Lemche ; Hering ; Dymond ; Hankó ; Esaki ; Bodenheimer ; Boschma ; Hemming ; Kühnelt ; Sylvester-Bradley ; Tortonese ;

(b) *Negative Votes, seven (7) :*

Prantl ; Mertens ; Jaczewski ; Miller ; Stoll ; Cabrera ; Key ;

(c) *Voting Papers not returned* :

None.

19. Declaration of Result of Vote : On 19th January 1958, Mr. Hemming, Secretary to the International Commission, acting as Returning Officer for the Vote taken on Voting Paper V.P.(57)59, signed a Certificate that the Votes cast were as set out in paragraph 18 above and declaring that the proposals submitted in each part of the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

20. Preparation of the Ruling given in the present " Direction " : On 14th January 1958, Mr. Hemming prepared the Ruling given in the present *Direction* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those

of the proposal approved by the International Commission in its Vote on Voting Paper V.P.(57)59.

21. Original References for generic and specific names : The following are the original references for the generic and specific names placed on *Official Lists* and *Official Indexes* by the Ruling given in the present *Direction* :—

alligator, *Lacerta*, Blumenbach, 1779, *Handb. Naturgesch.* (1) : 263

lucius, *Crocodylus* (*Alligator*), Cuvier (G.L.C.F.D.), 1807, *Ann. Mus. Hist. nat.*, Paris **10** : 28

missisipensis, *Alligator*, Gray (J.E.), 1831, *Syn. Rept.* : 62

mississippiensis, *Crocodylus*, Daudin, [1801] (an Invalid Original Spelling for *mississippiensis*)

mississippiensis (emend. of *mississippiensis*), *Crocodylus*, Daudin, [1801], in Sonnini's Buffon, *Hist. nat. Rept.* **2** : 412, nota (1)

22. Reference for the selection of a type species for a nominal genus : The following is the reference for the selection of a type species for a nominal genus specified in the Ruling given in the present *Direction* :—

For *Alligator* Cuvier
(G.L.C.F.D.), 1807

Stejneger (L.) & Barbour (T.),
1917, *Check List N. Amer.*
Amphib. Rept. (ed. 1) : 41

23. Reference for the selection of a lectotype for a nominal species : The following is the reference for the selection of a lectotype for a nominal species specified in the Ruling given in the present *Direction* :—

For *Crocodylus* (*Alligator*)
lucius Cuvier (G.L.C.F.D.),
1807

Mertens (R.), 1956, *Bull. zool.*
Nomencl. **12** : 175

24. Original References for Family-Group Names : The following is the original reference for the family-group name placed on the *Official List of Family-Group Names in Zoology* by the Ruling given in the present *Direction* :—

ALLIGATORIDAE Gray (J.E.), 1844, *Cat. Tortoises Crocodiles Amphibaenians Coll. Brit. Mus.* : 56

25. Compliance with Prescribed Procedures : The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Direction* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

26. "Direction" Number : The present *Direction* shall be known as *Direction* Ninety-Seven (97) of the International Commission on Zoological Nomenclature

DONE in London, this Fourteenth day of January, Nineteen Hundred and Fifty-Eight.

*Secretary to the International Commission
on Zoological Nomenclature*

FRANCIS HEMMING